



Precarious work and health: Do occupation- and state-specific unemployment rates matter for women and for men?

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ABSTRACT

Precarious work has the potential to undermine workers' health and well-being, and linkages between precarious work and health may depend on contextual measures of unemployment. The present study uses data from the Current Population Survey (CPS; 2001–2019) to examine whether several characteristics of precarious work are associated with self-rated health, with attention to differences in these associations by occupation- and state-specific unemployment rates. Findings indicate that experiences of unemployment, part-time work, and poor work quality (limited social benefits and low wages) are associated with worse self-rated health for working women and men. Moreover, associations between some measures of precarious work and health are weaker at higher levels of occupation- and state-specific unemployment for men, but not for women. The present study points to precarious work as a chronic stressor for many workers that must be considered within broader economic contexts.

The rise in precarious work – work that is uncertain, unstable, and insecure – over the past several decades (Fullerton & Wallace, 2007; Kalleberg, 2018; Saad, 2013) is a pressing social issue. Indeed, the growing prevalence of precarious work signals the demise of standard employment relationships, wherein work is full-time, year-round, secure, and includes extensive benefits and entitlements. The emergence and persistence of precarious work has the potential to disrupt workers' lives and undermine health. Indeed, prior research documents the consequences of precarious work for mental health (for reviews, see: Benach et al., 2014; Cheng and Chan 2008; De Witte et al., 2016; Kim and von dem Knesebeck 2016; Virtanen et al., 2005), and a growing body of research suggests that precarious work can also erode other dimensions of health, including self-rated health and cardiovascular health (for reviews, see: Benach et al., 2014; Cheng and Chan 2008; De Witte et al., 2016; Virtanen et al., 2013). However, linkages between precarious work and health may depend on broader contextual factors such as occupation- and state-level unemployment, but prior work does not consider this possibility.

In the present study, I analyze data from the Current Population Survey (CPS; 2001–2019) to consider how characteristics of precarious work are associated with self-rated health, with attention to variation in these associations by occupation- and state-level unemployment rates. Guided by a stress and life course perspective (Pearlin & Skaff, 1996; Pearlin et al., 2005), I suggest that precarious work can be stressful for

workers, and the stress from precarious work can proliferate to shape the health of workers. Moreover, socioecological models of health acknowledge the centrality of context in shaping population health outcomes (McLeroy et al., 1988; Montez, 2020; O'Campo & Dunn, 2012) such that broader economic conditions might affect the health of workers and might shape the health consequences of adverse work experiences. For example, prior research finds that when regional unemployment is high, the health consequences of unemployment (e.g., Clark et al., 2010) and job insecurity (e.g., Glavin & Young, 2017) are weaker than when regional unemployment is low. In the present study, I suggest that occupation-specific unemployment may be an important yet understudied contextual measure shaping the health consequences of precarious work. I also consider state-level unemployment rates as a place-based contextual measure.

The present study extends prior research on precarious work and health by investigating whether associations between precarious work and health differ by broader economic conditions such as occupation- and state-specific unemployment rates. Addressing these questions is particularly important in light of a steady rise in precarious work (Fullerton & Wallace, 2007; Kalleberg, 2018), which now exists in all strata of the economy. At the same time, increases in numerous indicators of poor health in the United States (e.g., Grol-Prokopczyk 2017; Masters et al., 2018; Siegel et al., 2017; Zajacova and Montez 2018) necessitate a closer examination of broad social changes that may

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underpin these trends in health. Thus, the changing nature of work may be an imminent threat to population health in the 21st century.

1. Background

1.1. Precarious work and health

The contemporary era of precarious work emerged in the 1970s with a movement away from standard employment relationships – that is, the often-romanticized employment contract of the post-World War II era defined by stable and predictable work schedules with understood expectations of long-term job security from the employer (Kalleberg, 2018). Now, a growing sense of precarity dominates the workforce and defines the nature of work in the 21st century. For example, a Gallup survey of employed adults found that workers' concerns about being laid off, having wages reduced, and having hours reduced spiked in 2009 and remained at high levels (Saad, 2013), indicating that feelings of vulnerability and insecurity are endemic in the contemporary economy (Rubin, 2014). The current era of precarious work shapes the way workers experience employment in the 21st century. Although precarious work does not have one standard definition, prior research typically focuses on the distinctions that separate precarious work from the standard employment relationship of the postwar era. For example, scholars point to involuntary part-time work, job insecurity, unpredictable work schedules, and the lack of social benefits as characteristics of precarious work (e.g., Benach et al., 2016; Kalleberg, 2011, 2018; Lambert et al., 2014).

Scholars also increasingly recognize the multi-dimensional nature of precarious work. For example, Lewchuk (2017) proposed an employment precarity index of 10 indicators of employment quality; on the other hand, Peckham et al. (2019) found that 11 characteristics of employment quality (e.g., employment contract, work hours and regularity, control of schedule) grouped into six distinct classes of work arrangements. These typologies predicted mental and physical health outcomes for workers. In the present study, I consider an index of work quality measuring limited social benefits and low wages, which are often considered characteristics of bad jobs that likely cluster together (Burgard & Lin, 2013; Kalleberg et al., 2000). I also focus on unemployment and (involuntary) part-time work as additional measures of precarious work. Frequent unemployment, for instance, may reflect employment instability that contrasts long-term, secure employment relationships. Part-time work, particularly involuntary part-time work, is a nonstandard work arrangement that tends to be insecure, lacking social benefits, offering little opportunity for promotions, and providing lower wages than full-time work (Canon et al., 2014; Kalleberg, 2018). Although not an exhaustive list, these measures of precarious work reflect deviations from the standard employment relationship.

Exposure to precarious work can take a toll on physical health. For example, a large body of evidence examines the effects of perceived job insecurity, finding that exposure to job insecurity is associated with worse self-rated health (e.g., Benach et al., 2014; Burgard et al., 2009; De Witte et al., 2016; Ferrie et al., 2002; Glavin, 2015) and cardiometabolic health for workers (e.g., Benach et al., 2014; De Witte et al., 2016; Lee et al., 2004; Virtanen et al., 2013). Moreover, recent research increasingly aims to understand the consequences of multiple characteristics of precarious work for mental and physical health (e.g., Donnelly, Forthcoming; Lewchuk, 2017; Peckham et al., 2019). However, scholars continue to explore the aspects of precarious work that matter for health. The present study builds on prior research by considering how measures of precarious work predict poor self-rated health, and whether occupation- and state-specific unemployment rates moderate associations between precarious work and self-rated health.

The present study is guided by a conceptual framework that assumes that precarious work is often stressful for workers, and stress responses undermine health. Indeed, a blended stress and life course perspective

suggests that stress, such as the stress from precarious work, proliferates across the life course to shape health and well-being (Pearlin & Skaff, 1996; Pearlin et al., 2005). The stress from precarious work likely activates biological (e.g., dysregulation of HPA axis), psychological (e.g., distress, hopelessness), social (e.g., relationship strain), and behavioral (e.g., smoking, alcohol use, sleep problems) responses that undermine health. For example, prior research finds that job insecurity leads to feelings of hopelessness and a lack of personal control among workers (Benach et al., 2014; Glavin, 2013) – psychological responses to stress that predict worse health and well-being (Mirowsky & Ross, 2003). Prior research also points to the mental health implications of involuntary part-time work (Kim et al., 2012), and prolonged psychological distress can erode physical health over time (Chapman et al., 2005; Kiecolt-Glaser et al., 2002). Moreover, workers could cope with the stress from precarious work by engaging in health-compromising behaviors such as smoking or increased alcohol use. Over time, these intersecting stress responses likely take a cumulative toll on physical health.

In addition to the stress of working in an insecure or unstable job, precarious work may involve greater material deprivation and physical exposures that compromise the health of workers (Benach et al., 2016; Peckham et al., 2019; Scott-Marshall and Tompa 2011). For example, the inadequate benefits, unfair earning distribution, and job strain that often accompany precarious jobs may partly explain why workers in precarious jobs experience worse health outcomes compared to workers in stable employment (e.g., Peckham et al., 2019). This conceptual framework suggests that precarious work likely influences health through several intersecting pathways.

1.2. Precarious work and health: variation by contextual factors

The adverse consequences of individual-level exposures to precarious work for health may depend on contextual labor market factors such as occupational and state unemployment, but prior work does not consider this possibility. However, research on the role of regional unemployment rates can be extended to the present study. For example, the social norm of unemployment hypothesis (Clark et al., 2010) suggests that as unemployment becomes prevalent at the aggregate, individual experiences of unemployment become more normalized and less detrimental for well-being. That is, when unemployment is common, workers feel a sense of shared empathy and reduced stigma that protects well-being. One study applied this hypothesis to experiences of job insecurity and found that the mental health penalties of job insecurity were weaker for workers living in high-unemployment regions compared to workers in lower-unemployment regions, perhaps because job insecurity in these contexts was perceived as more normative and less distressing (Glavin & Young, 2017).

Extending the social norm of unemployment hypothesis to the present study would suggest that when occupation- and state-specific unemployment is high, working in a job characterized by precarious work would be less harmful for health and well-being than working in a precarious job in the context of low occupation and state unemployment. One possibility is that workers who remain employed, even precariously, in contexts of high unemployment may compare themselves to the large number of unemployed workers and appreciate their better relative standing. That is, workers may welcome precarious work rather than unemployment. Thus, this hypothesis would suggest that the association between precarious work and health would become weaker as occupation- and state-specific unemployment rates increase.

A competing hypothesis – the amplified threat hypothesis – suggests that periods of high unemployment signal fewer chances for reemployment for those who are employed, which amplifies the threat of potential job loss. For example, prior research finds that the negative mental health consequences of job insecurity were greater in 2010, a turbulent economic period, compared to pre-recessionary 2006 (Lam et al., 2014). A possible explanation is that the Great Recession accentuated the increasing uncertainty and instability in the labor market,

which amplified the mental health consequences of job insecurity. In the present study, this framework would suggest that when occupation- and state-specific unemployment rates are high, the shrinking availability of jobs may cause distress for workers in more precarious jobs. Thus, the health consequences of precarious work may be more deleterious when a worker is surrounded by high unemployment rates in their occupation or state. The present study addresses a gap in the literature by considering variation in the association between precarious work and self-rated health by occupation- and state-specific unemployment rates.

1.3. Gender, precarious work, and health

Experiences of work and health are gendered in the United States. Women have historically been more likely than men to work in less secure and less stable jobs (e.g., [Hatton, 2008](#); [Kalleberg, 2018](#)); however, men are increasingly likely to experience precarious work in their careers ([Kalleberg, 2018](#)). Indeed, the shift away from the standard employment relationship likely increases the likelihood of experiencing insecure and unstable work for men and women alike. Despite possible similarities in exposure to precarious work, experiences related to work are still highly gendered in the United States. Women are more likely to experience additional work-related stressors such as workplace discrimination and work-family conflict (e.g., [Menendez et al., 2007](#)), whereas masculinity tends to be reproduced within contexts of work ([Morgan, 1992](#)) and men may experience a feeling of relative deprivation when confronted with precarious work ([Kalleberg, 2018](#)). In addition to gender differences in work, gender structures health such that women have higher rates of certain physical morbidities compared to men ([Case & Paxson, 2005](#)). The gendered nature of work and health necessitates an examination of precarious work and health separately for women and for men.

1.4. The present study

The present study extends prior research on precarious work and health by 1) considering several characteristics of precarious work, 2) testing differences in the associations between precarious work and health by occupation- and state-specific unemployment rates, and 3) considering possible gender differences in linkages between precarious work and health. I analyze nationally representative data from the Current Population Survey (2001–2019) to test the following specific hypotheses:

Hypothesis 1. All characteristics of precarious work will be associated with greater odds of reporting fair/poor health.

Hypothesis 2. In line with the social norm of unemployment and insecurity hypotheses, the associations between precarious work and health will be weaker for contexts of high unemployment (i.e., occupation- and state-specific unemployment rates).

Hypothesis 3. Because of the gendered nature of work and health, linkages between precarious work, contextual unemployment, and health will differ for women and for men.

2. Methods

2.1. Data

Data for the present study come from the United States Current Population Survey's (CPS) Annual Social and Economic Supplement (ASEC). The CPS is a nationally representative survey of U.S. households that is administered monthly; the ASEC is administered annually and collects more detailed data from respondents. The CPS follows a repeated cross-sectional design. For more detailed information about the CPS design and methodology, see [U.S. Census Bureau \(2019\)](#). The CPS-ASEC is well-suited for this study because it includes rich

information on work characteristics and includes a validated measure of health status – self-rated health. Moreover, the large sample of non-elderly respondents facilitates the evaluation of linkages between precarious work and health with adequate statistical power. The large sample of the CPS also allows for the generation of occupation- and state-specific unemployment rates by collapsing individual-level data by occupational categories and states (detailed below). I pool data from the 2001–2019 waves because 2001 was the first wave when all measures of precarious work in the present study were included.

The analytic sample of the present study is restricted to adults ages 25 to 64 who were employed at the time of the interview. This approach excludes longer-term unemployed adults and adults who are out of the labor force (about 20% of the CPS sample aged 25–64) but it is a necessary exclusion to understand the implications of specific aspects of work. I further exclude workers whose primary occupation is the military ($n=10,714$; 0.5% of the sample), as their employment experiences are unique and not generalizable to the broader population. Finally, I exclude respondents who have missing data, which was relatively uncommon; only foreign-born status had missing data (less than 0.5% of the sample). As a sensitivity check, I imputed missing data and the pattern of results was unchanged. The final analytic sample include 1,455,605 adults.

2.2. Measures

2.2.1. Self-rated health

Self-rated health is a widely used measure of general health that is associated with other indicators of physical health and future mortality (e.g., [Idler & Yael, 1997](#); [Latham & Peek, 2013](#)). Respondents were asked to rate their health as poor, fair, good, very good, or excellent. Consistent with prior research (e.g., [Kimbrow et al., 2008](#); [Liu & Hummer, 2008](#); [Martin et al., 2007](#)), I dichotomize this measure to indicate those who report fair/poor health (coded as 1) compared to those who rate their health as good, very good, or excellent (coded as 0).

2.2.2. Measures of precarious work

Job Quality Index. Common dimensions of precarious work and poor job quality include the lack of social benefits and working in a low-wage job (e.g., [Kalleberg, 2011](#); [Kalleberg et al., 2000](#)). Moreover, these characteristics likely cluster together. In line with prior research ([Kalleberg et al., 2000](#)), the present study considers an index of job quality by summing whether workers lack a pension plan, do not receive health insurance at their job, and work in a low-wage job. The CPS asks respondents whether they had a pension or other retirement plan provided by their union or employer (1=no pension) and whether they were included in a health insurance plan at their job (1=no health insurance). The CPS also asks about respondents' pre-tax wage and salary income, and I create an indicator of low wages for workers in the bottom quintile of the wage distribution in each survey year.

These three items are moderately correlated. The strongest correlations were for the lack of health insurance with the absence of pension benefits ($r=0.40$) and low wages ($r=0.40$), followed by pension benefits with wages ($r=0.34$).

Previous-year unemployment. Because workers who are precariously employed are more likely to experience periods of unemployment, one characteristic of precarious work is the experience of unemployment in the previous year. The CPS asks respondents about their employment status in the year preceding the interview, including information about the number of weeks unemployed. Using this information, I include a measure of any unemployment in the previous year where 1 indicates the worker was unemployed between 1 and 52 weeks and 0 indicates the respondent was employed all year.

Part-time work. The CPS collects data on employment status, including whether respondents are not in the labor force (e.g., retired, unable to work, housework), unemployed, and in the labor force. For those in the labor force, the CPS asks whether respondents are working

full time, working part-time for economic reasons (i.e., involuntary), or working part-time for non-economic reasons (i.e., voluntary). I examine a three-category measure of part-time work status: employed full-time or usually full-time (reference), voluntary part-time, and involuntary part-time. Voluntary workers are those who are working part-time hours for reasons such as childcare problems, family obligations, or their health status, whereas involuntary part-time workers are those who work part-time because they could not find full-time employment or because of slack working conditions. Involuntary part-time work is often considered an indicator of precarious work (Canon et al., 2014; Kalleberg, 2018).

As a robustness check, I explored measurement models for precarious work using the five indicators described here (i.e., unemployment, part-time work, pensions, health insurance, low wages). Exploratory factor analysis found that the five measures of precarious work did not group well into one or more factors. Moreover, latent class analysis confirmed poor model fit for latent classes comprised of these measures. However, as noted above, due to moderate correlations among social benefits and wages and in line with prior research (e.g., Kalleberg et al., 2000), I created an index of work quality for these three measures.

2.2.3. Occupation-specific unemployment rate

Occupation-specific unemployment rates is used as an important contextual factor that may moderate the association between individual-level measures of precarious work and health, as it reflects the risk of unemployment in the worker's occupation. In the CPS, respondents report their primary occupation, which is classified based on the Standard Occupational Classification scheme. The 500+ detailed occupational groups are arranged into 23 major occupational groups such as management occupations, legal occupations, sales occupations, and so on (U.S. Census Bureau, 2019). The present study excludes adults in the military, as noted above, and thus relies on 22 occupational groups. Using these 22 major occupational groups also ensures adequate sample size to calculate the unemployment rate in each occupation for every year. The occupation-specific unemployment rate is calculated based on the proportion of workers in each occupation who are currently unemployed relative to workers who are currently employed. I calculate occupation-specific unemployment rates in each year (2001–2019) to accurately reflect rates that likely change over time. Occupation-specific unemployment rates tend to be lowest in white-collar occupations such as legal, healthcare practitioners, and business (1.5–3%, on average) and highest among occupations such as food preparation/service, maintenance, and construction (7.5–12%, on average).

2.2.4. State-specific unemployment rate

Similarly, state-specific unemployment rate is calculated based on the proportion of workers in each state who are currently unemployed relative to workers who are currently employed. These rates are calculated for each year (2001–2019) to reflect changes in unemployment over this time. The average unemployment rate between 2001 and 2019 was lowest in Hawaii, Nebraska, North Dakota, and South Dakota (3–3.6%) and was highest in Alaska, California, Michigan, and Oregon (approximately 6.5%).

2.2.5. Covariates

All analyses account for sociodemographic covariates that may be associated with both precarious work and health. These include age (in years), gender (male as reference), race/ethnicity (non-Hispanic white (reference), non-Hispanic Black, Hispanic, and "other" race/ethnicity), educational attainment (less than high school diploma (reference), high school diploma or equivalent, some college, Associate's degree, Bachelor's degree, Graduate degree), foreign-born status (U.S.-born as reference), marital status (married (reference), divorced/separated, widowed, never married), and household size. Time is a categorical measure (2001–2006 (reference), 2007–2009, 2010–2013, 2014–2019) to capture possible changes in work and health during the Great

Recession and the post-recession recovery.

2.3. Analytic strategy

I first regressed the measures of precarious work on sociodemographic characteristics to understand the characteristics of adults at risk of precarious work using linear regression (work quality index), logistic regression (previous-year unemployment), and multinomial logistic regression (part-time work status). Then, I estimated a series of logistic regression models regressing fair/poor self-rated health on the measures of precarious work. To understand whether the associations between individual-level measures of precarious work and self-rated health vary by occupation- and state-specific unemployment rates, I added interactions of precarious work and contextual unemployment in separate models. Standard errors are clustered at the occupation level for models including occupation-specific unemployment and at the state level for models including state-specific unemployment. This analytic approach helps to address the nonindependence of individuals within occupations and states and is considered an alternative to multilevel modeling due to the limited number of occupations in the present study (Bryan and Jenkins 2016). All analyses include sociodemographic covariates and use respondent-level ASEC weights. The ASEC weights are based on the inverse probability of selection into the sample and adjust for nonresponse, sampling design, and the known distribution of the entire population by age, sex, and race.

3. Results

3.1. Descriptive results

Table 1 presents descriptive statistics for the analytic sample and by gender. Among this sample of adults aged 25–64 (mean age=43), Table 1 shows that about 6% of respondents report fair/poor self-rated health. Turning to the measures of precarious work, Table 1 shows that over 50% of respondents do not have a pension in their job and 40% of respondents do not have health insurance at their job. The mean of the job quality index is about 1, suggesting that the average worker endorses one characteristic comprising the index (i.e., no pension, no health insurance, low-wage job). Unemployment and involuntary part-time work were less common in this sample. About 6% of currently employed adults experienced unemployment in the previous year and about 4% of adults are in involuntary part-time work.

For the contextual measures of unemployment, the average occupation-specific unemployment rate was 4.77% and the average state-level unemployment rate was 5.13%. Because the analytic sample is restricted to respondents who are currently working, the sample is likely to be more advantaged than if the sample included all respondents in the CPS. Indeed, over one third of respondents in the analytic sample have a bachelor's degree or higher and the analytic sample includes fewer non-Hispanic Black and Hispanic adults than we would expect based on national estimates.

3.2. Predictors of precarious work

To understand the distribution of precarious work, I first regressed each measure of precarious work on the covariates in this study. Starting with the job quality index, Model 1 (Table 2) shows that women, Hispanic adults, adults with lower levels of educational attainment, younger adults, never-married adults, and foreign-born adults reported higher scores on the precarious work index. Supplemental Table A shows results separately for the three indicators that comprise the job quality index – the absence of a pension, a lack of employer health insurance, and low-wage work. Turning to unemployment (Table 2, Model 2), men, non-Hispanic Black and Hispanic adults, adults with less educational attainment, younger adults, and non-married adults were more likely to experience unemployment in the previous year.

Table 1
Weighted descriptive statistics for the analytic sample (CPS, 2001–2019).

	Overall (n=1,455,605)		Women (n=696,109)		Men (n=759,496)	
	% or Mean	(St Dev.)	% or Mean	(St Dev.)	% or Mean	(St Dev.)
Fair/Poor Self-rated Health	6.06		6.47		5.7	
Unemployed in Previous Year (1=yes)	5.68		5.28		6.03	
Current Work Status						
Full-time	85.90		79.30		91.88	
Voluntary part-time work	10.14		16.72		4.32	
Involuntary part-time work	3.88		3.98		3.79	
No Pension	54.20		54.18		54.21	
No Health Insurance	40.02		43.38		37.05	
Low-wage Worker (1=yes)	18.78		22.57		15.44	
Job Quality Index (range 0–3)	1.11	(1.04)	1.18	(1.07)	1.05	(1.01)
Occupation-specific Unemployment Rate	4.77	(0.90)	4.12	(2.40)	5.35	(3.57)
State-level Unemployment Rate	5.13	(1.98)	5.14	(1.99)	5.12	(1.98)
Female	46.89					
Race						
Non-Hispanic White	67.82		67.76		67.87	
Non-Hispanic Black	10.67		12.40		9.14	
Hispanic	14.31		12.55		15.86	
“Other” race/ethnicity	7.21		7.29		7.14	
Educational Attainment						
Less Than High School	8.10		6.15		9.82	
High School Diploma or Equivalent	27.56		25.62		29.26	
Some College, No Degree	17.04		17.58		16.57	
Associate’s Degree	10.68		12.3		9.26	
Bachelor’s Degree	23.49		24.55		22.55	
Graduate Degree	13.13		13.8		12.54	
Survey Year						
2001–2006	28.90		28.7		29.08	
2007–2009	15.07		15.04		15.1	
2010–2013	19.63		19.83		19.44	
2014–2019	36.40		36.43		36.38	
Age	43.17	(10.78)	43.37	(10.78)	42.99	(10.78)
Marital Status						
Married	63.21		60.47		65.63	
Divorced/Separated	14.37		17.52		11.58	
Widowed	1.49		2.41		0.67	
Never Married	20.94		19.6		22.13	
Foreign-born	18.25		16.22		20.05	
Household Size	2.95	(1.45)	2.91	(1.40)	2.98	(1.50)

Examining part-time work shows that voluntary part-time workers were more likely to be women, White adults, adults with less education, older adults, and adults in larger families (Model 3). A much steeper educational gradient existed for involuntary part-time work, and these workers were more likely to be women, non-Hispanic Black or Hispanic adults, younger adults, nonmarried, and foreign-born (Table 2, Model 4).

Turning to the contextual measures of unemployment, Model 5 of Table 2 shows that men, non-Hispanic Black and Hispanic adults, adults with lower levels of education, younger adults, nonmarried adults, and foreign-born adults worked in occupations with higher unemployment rates. Some differences in state-level unemployment emerged, such that women, Hispanic and “other” racial/ethnic adults, older adults, non-married adults, and foreign-born adults were more likely to live in states with higher unemployment rates (Table 2, Model 6).

3.3. Precarious work and health

To test Hypothesis 1 that indicators of precarious work are associated with greater odds of reporting fair/poor health, Table 3 presents the results for fair/poor self-rated regressed on the measures of precarious work. Model 1 shows that higher scores on the job quality index were associated with greater odds of fair/poor health ($p < .001$), net of covariates. That is, for each indicator endorsed, the odds of fair/poor health increased by 25% (coef: 0.22). Model 2 of Table 3 added previous-year unemployment and part-time work status to Model 1. Results show that workers who were unemployed in the previous year ($p < .001$) or who work voluntary or involuntary part-time jobs ($p < .001$) had greater odds of fair/poor health compared to their counterparts who were not unemployed in the previous year and who worked full-time. For example, workers who were working part-time because a full-time job was unavailable (i.e., involuntary part-time work) had 42% greater odds of fair/poor health compared to full-time workers (coef: 0.35; $p < .001$). Taken together, Models 1–2 show robust associations between individual-level indicators of precarious work and self-rated health, supporting Hypothesis 1.

3.4. Precarious work, contextual unemployment, and health

To test how the associations between precarious work and self-rated health vary across contextual unemployment (Hypothesis 2), Models 3–6 of Table 3 included the main effects and interactions of precarious work with occupation-specific unemployment (Model 3–4) and state-level unemployment (Model 5–6). In Model 3, occupation-specific unemployment was not statistically significant. However, several interactions of precarious work and occupational unemployment were statistically significant (Model 4). In Model 4, the significant and negative interaction term of occupational unemployment with the work quality index ($p < .001$) suggests that the association between the work quality index and self-rated health is weaker when occupational unemployment is high. A negative interaction term for previous-year unemployment and occupational unemployment ($p < .10$) suggests a similar pattern for the association between unemployment and self-rated health. On the other hand, the positive and significant interaction time for voluntary part-time work suggests that the health consequences of voluntary part-time work are greater when occupation-specific unemployment is high.

Next, Models 5–6 consider the role of state-level unemployment. State unemployment was not statistically associated with self-rated health in Model 5. However, the negative interaction term for state-level unemployment and previous-year unemployment indicates that the association between unemployment and fair/poor self-rated health is weaker when state-level unemployment is higher (Model 6; $p < .001$). The results in Model 6 generally suggest that state-level unemployment plays a smaller role in moderating associations between precarious work and self-rated health compared to occupational unemployment. Taken together, Table 3 provides partial support for Hypothesis 2, with results generally supporting the moderating role of occupation-specific unemployment. Notably, effect sizes for the interaction terms are modest in magnitude. For example, the effect of the precarious work index on fair/poor health decreased by 0.01 for each 1% increase in the occupational unemployment rate. Moreover, the effect of previous-year unemployment on fair/poor health decreased by 0.03 for each 1% increase in state-level unemployment rate.

Table 2
Measures of precarious work regressed on covariates (CPS, 2001–2019).

	Work Quality Index	Unemployment	Part-time work ^a		Occupation Unemployment Rate	State Unemployment Rate
			Voluntary	Involuntary		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Female	0.19*** (0.00)	−0.11*** (0.01)	1.55*** (0.01)	0.28*** (0.01)	−1.05*** (0.01)	0.01*** (0.00)
Non-Hispanic Black (ref: Non-Hispanic White)	−0.05*** (0.00)	0.08*** (0.01)	−0.57*** (0.01)	0.05** (0.02)	0.03** (0.01)	−0.05*** (0.00)
Hispanic (ref: Non-Hispanic White)	0.06*** (0.00)	0.04* (0.02)	−0.40*** (0.01)	0.11*** (0.02)	0.31*** (0.01)	0.09*** (0.01)
Other race/ethnicity (ref: Non-Hispanic White)	−0.02*** (0.00)	−0.00 (0.02)	−0.21*** (0.02)	−0.03 (0.02)	−0.24*** (0.01)	0.11*** (0.01)
High School/GED (ref: Less than high school diploma)	−0.40*** (0.00)	−0.37*** (0.02)	−0.26*** (0.02)	−0.56*** (0.02)	−1.07*** (0.01)	−0.01 (0.01)
Some College, No Degree (ref: Less than high school diploma)	−0.51*** (0.00)	−0.42*** (0.02)	−0.16*** (0.02)	−0.77*** (0.02)	−1.92*** (0.01)	0.04*** (0.01)
Associate’s Degree (ref: Less than high school diploma)	−0.62*** (0.01)	−0.58*** (0.02)	−0.20*** (0.02)	−0.93*** (0.02)	−2.43*** (0.01)	−0.00 (0.01)
Bachelor’s Degree (ref: Less than high school diploma)	−0.77*** (0.00)	−0.76*** (0.02)	−0.39*** (0.02)	−1.36*** (0.02)	−3.27*** (0.01)	0.01+ (0.01)
Graduate Degree (ref: Less than high school diploma)	−0.92*** (0.00)	−0.97*** (0.02)	−0.53*** (0.02)	−1.77*** (0.03)	−4.17*** (0.01)	0.02** (0.01)
2007–2009 (ref: 2001–2006)	0.06*** (0.00)	0.07*** (0.01)	−0.02* (0.01)	0.39*** (0.02)	0.74*** (0.01)	0.80*** (0.01)
2010–2013 (ref: 2001–2006)	0.10*** (0.00)	0.38*** (0.01)	−0.04*** (0.01)	0.73*** (0.01)	2.93*** (0.01)	3.21*** (0.00)
2014–2019 (ref: 2001–2006)	0.12*** (0.00)	0.08*** (0.01)	−0.03** (0.01)	0.31*** (0.02)	0.05*** (0.01)	−0.17*** (0.00)
Age	−0.00*** (0.00)	−0.02*** (0.00)	0.01*** (0.00)	−0.00*** (0.00)	−0.00*** (0.00)	0.00*** (0.00)
Divorced/Separated (ref: Married)	0.00 (0.00)	0.49*** (0.01)	−0.38*** (0.01)	0.43*** (0.02)	0.21*** (0.01)	0.02*** (0.00)
Widowed (ref: Married)	0.01 (0.01)	0.38*** (0.04)	0.02 (0.03)	0.40*** (0.04)	0.19*** (0.02)	0.02+ (0.01)
Never Married (ref: Married)	0.11*** (0.00)	0.44*** (0.01)	0.07*** (0.01)	0.63*** (0.02)	0.22*** (0.01)	0.08*** (0.00)
Foreign-born	0.24*** (0.00)	0.03+ (0.01)	−0.05*** (0.01)	0.30*** (0.02)	0.46*** (0.01)	0.14*** (0.01)
Household Size	0.03*** (0.00)	0.00 (0.00)	0.11*** (0.00)	0.03*** (0.00)	0.00 (0.00)	0.02*** (0.00)
Constant	1.42*** (0.01)	−2.27*** (0.02)	−3.18*** (0.02)	−3.14*** (0.03)	6.63*** (0.02)	4.28*** (0.01)

Note. ^areference is full-time work; Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

3.5. Gender, precarious work, and health

Table 4 presents results separately for women (Table 4, Panel A) and men (Table 4, Panel B) to test Hypothesis 3. When considering associations between individual-level measures of precarious work and self-rated health, the pattern of results was similar for women and for men (Models 1–2 of Panels A and B). The coefficient for voluntary part-time work is smaller for women compared to men; however, the coefficients for the job quality index, unemployment, and involuntary part-time work are similar for women and for men.

A few key differences emerge when considering the role of contextual unemployment. For occupation-specific unemployment, the results in Model 3 show that occupational unemployment is positively associated with fair/poor health for women (Panel A; p<.001), but not for men (Panel B). However, occupational unemployment moderates the associations of the job quality index and involuntary part-time work with self-rated health for men (Panel B; Model 4), but not women (Panel A; Model 4). The association between voluntary part-time work and self-rated health, on the other hand, is moderated by occupational unemployment for women only (Panel A; Model 4). When considering state-level unemployment, Model 5 in Panel A and B shows that state-level unemployment is positively associated with fair/poor health for women only. However, state-level unemployment moderates the association between previous-year unemployment and fair/poor health for men only (Panel B; Model 6).

Overall, Table 4 suggests that while individual-level measures of precarious work have similar effects on self-rated health for women and for men, some differences emerged when considering the role of occupation- and state-specific unemployment. Specifically, working in occupations or states with high levels of unemployment was associated with greater odds of fair/poor health for women only; however, contextual unemployment moderated the associations between precarious work and self-rated health for men only, such that the health consequences of precarious work were generally weaker when contextual unemployment rates were higher. Thus, results in Table 4 provide partial support for Hypothesis 3.

Fig. 1 shows predicted percentages of workers in fair/poor health by each measure of precarious work at low levels (rate=2) and high levels (rate=8) of occupation-specific unemployment separately for women and for men. The low level of unemployment reflects the 15th percentile of the distribution, and the high level of unemployment reflects the 90th percentile of the distribution. I emphasize two main findings from Fig. 1. First, for women, Fig. 1 reflects the significant main effects of precarious work and high occupational unemployment (from Table 4, Panel A, Model 3). Women with higher scores on the job quality index, women who were unemployed last year, and women in involuntary part-time work were more likely to report fair/poor health compared to their less precarious counterparts; moreover, high unemployment rates were detrimental to health even among women who were not precariously employed. Together, Fig. 1 shows the additive effects of precarious work

Table 3
Logistic regression models regressing fair/poor self-rated health on precarious work (CPS, 2001–2019).

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Female	0.09** (0.03)	0.06+ (0.03)	0.07* (0.03)	0.07* (0.03)	0.06*** (0.01)	0.06*** (0.01)
Non-Hispanic Black (ref: Non-Hispanic White)	0.34*** (0.03)	0.35*** (0.03)	0.35*** (0.03)	0.35*** (0.03)	0.35*** (0.03)	0.35*** (0.03)
Hispanic (ref: Non-Hispanic White)	0.24*** (0.03)	0.26*** (0.03)	0.25*** (0.03)	0.25*** (0.03)	0.25*** (0.05)	0.25*** (0.05)
Other race/ethnicity (ref: Non-Hispanic White)	0.36*** (0.03)	0.37*** (0.03)	0.37*** (0.03)	0.37*** (0.03)	0.37*** (0.03)	0.37*** (0.03)
High School/GED (ref: Less than high school diploma)	-0.42*** (0.02)	-0.42*** (0.02)	-0.41*** (0.02)	-0.41*** (0.02)	-0.42*** (0.04)	-0.42*** (0.04)
Some College, No Degree (ref: Less than high school diploma)	-0.51*** (0.02)	-0.51*** (0.02)	-0.49*** (0.02)	-0.49*** (0.02)	-0.51*** (0.04)	-0.51*** (0.04)
Associate's Degree (ref: Less than high school diploma)	-0.67*** (0.03)	-0.66*** (0.03)	-0.64*** (0.03)	-0.64*** (0.03)	-0.66*** (0.04)	-0.66*** (0.04)
Bachelor's Degree (ref: Less than high school diploma)	-1.03*** (0.04)	-1.02*** (0.04)	-0.99*** (0.04)	-0.99*** (0.04)	-1.02*** (0.05)	-1.02*** (0.05)
Graduate Degree (ref: Less than high school diploma)	-1.15*** (0.04)	-1.15*** (0.04)	-1.11*** (0.04)	-1.10*** (0.04)	-1.15*** (0.05)	-1.15*** (0.05)
2007–2009 (ref: 2001–2006)	-0.01 (0.01)	-0.01 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)
2010–2013 (ref: 2001–2006)	0.01 (0.02)	-0.00 (0.02)	-0.03 (0.03)	-0.04 (0.03)	-0.03 (0.03)	-0.03 (0.03)
2014–2019 (ref: 2001–2006)	-0.05** (0.02)	-0.05** (0.02)	-0.05** (0.02)	-0.06** (0.02)	-0.05* (0.02)	-0.05* (0.02)
Age	0.04*** (0.00)	0.04*** (0.00)	0.04*** (0.00)	0.04*** (0.00)	0.04*** (0.00)	0.04*** (0.00)
Divorced/Separated (ref: Married)	0.37*** (0.02)	0.37*** (0.02)	0.37*** (0.02)	0.36*** (0.02)	0.37*** (0.02)	0.37*** (0.02)
Widowed (ref: Married)	0.34*** (0.04)	0.33*** (0.04)	0.33*** (0.04)	0.32*** (0.04)	0.33*** (0.03)	0.33*** (0.03)
Never Married (ref: Married)	0.26*** (0.03)	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.02)	0.24*** (0.02)
Foreign-born	-0.23*** (0.03)	-0.22*** (0.03)	-0.22*** (0.03)	-0.22*** (0.03)	-0.22** (0.07)	-0.22** (0.07)
Household Size	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Job Quality Index	0.22*** (0.01)	0.15*** (0.01)	0.15*** (0.01)	0.18*** (0.01)	0.15*** (0.01)	0.14*** (0.01)
Unemployed in Previous Year		0.34*** (0.02)	0.34*** (0.02)	0.43*** (0.06)	0.34*** (0.02)	0.50*** (0.05)
Voluntary Part-time Work (ref: Full-time)		0.33*** (0.04)	0.33*** (0.04)	0.14* (0.07)	0.33*** (0.01)	0.31*** (0.04)
Involuntary Part-time Work (ref: Full-time)		0.35*** (0.03)	0.35*** (0.03)	0.40*** (0.05)	0.35*** (0.02)	0.36*** (0.04)
Occupation Unemployment Rate			0.01 (0.01)	0.02+ (0.01)		
Job Index*Occupation Unemployment				-0.01*** (0.00)		
Unemployed in Previous Year*Occupation Unemployment				-0.01+ (0.01)		
Voluntary Part-time Work*Occupation Unemployment				0.04*** (0.01)		
Involuntary Part-time Work*Occupation Unemployment				-0.01 (0.01)		
State Unemployment Rate					0.01 (0.01)	0.01 (0.01)
Job Index*State Unemployment						0.00 (0.00)
Unemployed in Previous Year*State Unemployment						-0.03*** (0.01)
Voluntary Part-time Work*State Unemployment						0.00 (0.01)
Involuntary Part-time Work*State Unemployment						-0.00 (0.01)
Constant	-3.41*** (0.04)	-3.40*** (0.04)	-3.46*** (0.05)	-3.49*** (0.05)	-3.43*** (0.06)	-3.43*** (0.07)

Note. Coefficients presented. Robust standard errors in parentheses. Standard errors clustered at occupation level in Models 1–4; standard errors clustered at state in Models 5–6. *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

and high occupational unemployment such that women experiencing precarious work and high occupation-specific unemployment were at greatest risk of fair/poor health. Second, Fig. 1 shows that men experiencing precarious work were more likely to report fair/poor health than

their less precariously employed counterparts, but the health disadvantage was smaller when working in occupations with high unemployment. That is, when considering the job quality index or involuntary part-time work, the health gap between the black bars (i.e., low

Table 4
Key coefficients from logistic regression models regressing fair/poor self-rated health on precarious work, separated by gender (CPS 2001–2019).

	Panel A: Women					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Job Quality Index	0.21*** (0.01)	0.15*** (0.01)	0.14*** (0.01)	0.16*** (0.02)	0.15*** (0.01)	0.14*** (0.02)
Unemployed in Previous Year		0.35*** (0.03)	0.34*** (0.03)	0.38*** (0.07)	0.35*** (0.03)	0.41*** (0.07)
Voluntary Part-time Work (ref: Full-time)		0.23*** (0.04)	0.23*** (0.03)	0.10+ (0.06)	0.23*** (0.02)	0.18*** (0.05)
Involuntary Part-time Work (ref: Full-time)		0.36*** (0.03)	0.34*** (0.03)	0.31*** (0.08)	0.35*** (0.02)	0.29*** (0.06)
Occupation Unemployment Rate			0.03*** (0.01)	0.03* (0.01)		
Job Index*Occupation Unemployment				−0.00 (0.00)		
Unemployed in Previous Year*Occupation Unemployment				−0.01 (0.01)		
Voluntary Part-time Work*Occupation Unemployment				0.03** (0.01)		
Involuntary Part-time Work*Occupation Unemployment				0.01 (0.01)		
State Unemployment Rate					0.01* (0.01)	0.01 (0.01)
Job Index*State Unemployment						0.00 (0.00)
Unemployed in Previous Year*State Unemployment						−0.01 (0.01)
Voluntary Part-time Work*State Unemployment						0.01 (0.01)
Involuntary Part-time Work*State Unemployment						0.01 (0.01)
Constant	−3.15*** (0.05)	−3.15*** (0.05)	−3.27*** (0.06)	−3.27*** (0.07)	−3.22*** (0.07)	−3.20*** (0.07)
	Panel B: Men					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Job Quality Index	0.23*** (0.01)	0.16*** (0.01)	0.16*** (0.01)	0.20*** (0.02)	0.16*** (0.01)	0.15*** (0.02)
Unemployed in Previous Year		0.34*** (0.03)	0.33*** (0.02)	0.44*** (0.07)	0.34*** (0.03)	0.57*** (0.06)
Voluntary Part-time Work (ref: Full-time)		0.62*** (0.04)	0.62*** (0.04)	0.54*** (0.08)	0.62*** (0.03)	0.67*** (0.05)
Involuntary Part-time Work (ref: Full-time)		0.35*** (0.04)	0.35*** (0.04)	0.44*** (0.05)	0.35*** (0.02)	0.42*** (0.06)
Occupation Unemployment Rate			0.01 (0.01)	0.02 (0.01)		
Job Index*Occupation Unemployment				−0.01*** (0.00)		
Unemployed in Previous Year*Occupation Unemployment				−0.01 (0.01)		
Voluntary Part-time Work*Occupation Unemployment				0.01 (0.01)		
Involuntary Part-time Work*Occupation Unemployment				−0.01* (0.00)		
State Unemployment Rate					−0.00 (0.01)	0.00 (0.01)
Job Index*State Unemployment						0.00 (0.00)
Unemployed in Previous Year*State Unemployment						−0.04*** (0.01)
Voluntary Part-time Work*State Unemployment						−0.01 (0.01)
Involuntary Part-time Work*State Unemployment						−0.01 (0.01)
Constant	−3.52*** (0.05)	−3.51*** (0.05)	−3.54*** (0.09)	−3.60*** (0.08)	−3.51*** (0.07)	−3.53*** (0.08)

unemployment) is greater than the gap between the gray bars (i.e., high unemployment). Taken together, Fig. 1 points to the need to consider occupation-specific unemployment when considering associations between precarious work and self-reported health, and to consider results separately for women and for men.

4. Discussion

Precarious work is increasingly common in the United States and has well-documented adverse consequences for the mental health of working adults (for reviews, see: Benach et al., 2014; Cheng and Chan 2008; De Witte et al., 2016; Kim and von dem Knesebeck 2016; Virtanen et al., 2005); increasing evidence also suggests that some characteristics of

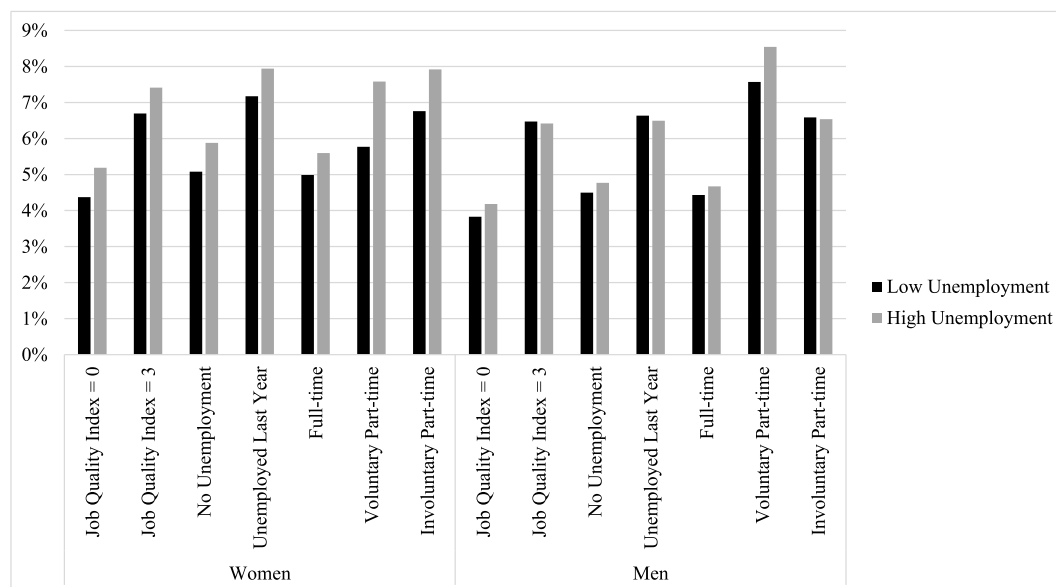


Fig. 1. Predicted percent of workers in fair/poor health by characteristics of work at low and high levels of occupation-specific unemployment (CPS, 2001–2019). Note. Low occupation-specific unemployment is rate=2 (15th percentile) and high occupation-specific unemployment is rate=8 (90th percentile).

precarious work may undermine physical health (for reviews, see: Benach et al., 2014; Cheng and Chan 2008; De Witte et al., 2016; Virtanen et al., 2013). However, prior research does not consider the possibility that linkages between precarious work and health may differ by contextual unemployment rates. The present study considered whether several indicators of precarious work are associated with fair/poor self-rated health, with attention to differences in these associations by occupation- and state-specific unemployment rates. I highlight three key themes from the present study.

First, I find that individual measures of precarious work are associated with worse self-rated health among working adults in the United States. Although prior research documents associations between job insecurity and self-rated health (e.g., Benach et al., 2014; Burgard et al., 2009; De Witte et al., 2016; Ferrie et al., 2002; Glavin, 2015), the present study builds on this research by showing that numerous indicators of precarious work such as the job quality index, previous-year unemployment, and involuntary part-time work predict worse self-rated health. I hypothesize that the stress of working in a precarious job alongside harmful physical exposures likely takes a toll on health. Indeed, recent research points to social marginality such as reduced self-efficacy and weaker social integration as mechanisms explaining the health implications of precarious work (Macmillan & Shanahan, 2021). Future research should continue to explore specific mechanisms linking precarious work to health.

The second theme highlights the need to consider contextual factors when examining the health consequences of precarious work. In the present study, findings on the role of occupation-specific unemployment support the social norm of unemployment (Clark et al., 2010) and social norm of insecurity (Glavin & Young, 2017) hypotheses. That is, the associations between characteristics of precarious work and self-rated health are weaker when occupation-specific unemployment is high. This could suggest that when contextual unemployment rates are high, precarious work is seen as a comparatively favorable and less stressful alternative to unemployment. Workers may then experience less distress and a more positive outlook despite these high unemployment contexts, resulting in less adverse effects for self-rated health. Moreover, workers in high-unemployment occupations may perceive more support among their peers, increasing their ability to cope with stressful work-related experiences and thereby reducing the health consequences of precarious work. The finding that high state-level unemployment reduces the health consequences of individual experiences

of unemployment further supports the social norm of unemployment hypothesis; however, state unemployment rates did not moderate the associations between other indicators of precarious work and self-rated health. This suggests that occupation-specific unemployment may be a more influential measure of the broader economic environment than state-level unemployment. Another possibility is that unemployment rates in neighborhoods or local communities may have stronger impacts on health than unemployment rates at the state level – an avenue for future research.

Finally, the present study highlights gender differences in exposure and vulnerability to precarious work, with possible implications for health disparities. As a reflection of inequalities in the labor force (e.g., Burgard & Lin, 2013; Hatton, 2008), women were more likely than men to experience poor job quality and involuntary part-time work. Because differential exposure to stressful conditions is central to the production of health disparities (Ward et al., 2019), these inequalities in exposure to precarious work may add to existing health disparities by gender (e.g., Case & Paxson, 2005). Moreover, although associations between individual experiences of precarious work and self-rated health were similar for women and for men, the role of occupation- and state-specific unemployment differed by gender. Contextual measures of unemployment weakened associations between precarious work and self-rated health for men, but not women, suggesting a potential source of disadvantage for women. For example, women experiencing precarious work in occupations with high unemployment rates were most at risk of fair/poor self-rated health. One possible explanation is that men are more likely to work in occupations with the highest rates of unemployment (i.e., construction, maintenance, transportation), so unemployment may be more normative and less stigmatized for men. Moreover, because masculinity is strongly linked with employment and contexts of work (Morgan, 1992), shared experiences of unemployment may be more protective for men than for women. Precarious work may also be seen as a better alternative than unemployment, reducing the health consequences of precarious work in the high unemployment occupations that men occupy. Future research should continue to explore the unequal distribution of precarious work in the population by race/ethnicity, gender, nativity, and other social identities, testing whether precarious work contributes to health disparities.

Limitations of the present study must be noted. First, this study relies on cross-sectional data and cannot make causal claims. Reverse causation is a possibility, wherein workers with more health problems select

into jobs that are more precarious, perhaps because these jobs allow more flexibility. A second limitation is that by focusing on currently working adults, the present study relies on a more robust and select analytic sample. Because precarious work is associated with worse health, workers who are in precarious jobs for longer periods of time may become too unhealthy to work and drop out of the labor force. An important avenue for future research is to explore the health experiences of adults who leave the labor force due to the rise in precarious work. Importantly, this limitation implies that current estimates in this study could be under-estimated and the consequences of precarious work for health may be more severe.

Finally, some limitations related to the measures of precarious work and health should be noted. For precarious work, nationally representative studies must continue to ask more detailed questions about characteristics of work. While the CPS includes several important measures of precarious work, it lacks measures about temporary work contracts, perceived job insecurity, and (un)predictability of work schedules. Regarding measures of health, the CPS lacks detailed data on mental and physical health, preventing examination of whether the pattern of results hold for other outcomes.

Prior research finds that measures of precarious work, especially job insecurity, contribute to worse mental and physical health among workers (for reviews, see: [Benach et al., 2014](#); [Cheng and Chan 2008](#); [De Witte et al., 2016](#); [Kim and von dem Knesebeck 2016](#); [Virtanen et al., 2005](#); [Virtanen et al., 2013](#)). The shift away from stable and secure employment relationships towards more precarious forms of

employment represents a chronic stressor for many workers that will continue to be a threat to population health. The present study underscores the importance of reducing the health consequences of precarious work, and social policy initiatives may be an important avenue for intervention. That is, the political context has great potential to alleviate some of the health consequences of precarious work, and this will be increasingly important as precarious work is unlikely to abate. Indeed, international comparative research shows that consequences of precarious work are often less severe when countries have generous protections for workers through labor laws, regulatory protection, and labor rights (e.g., [Bartoll et al., 2014](#); [Kalleberg, 2018](#); [Kim et al., 2012](#)). The rise in increasingly unstable, uncertain, and insecure work is detrimental to workers, families, and society.

Author statement

Author responsible for all aspects of the manuscript.

Declaration of competing interest

None.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ssmph.2021.100967>.
 Table 4, continued.

	Panel B: Men					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Job Quality Index	0.23*** (0.01)	0.16*** (0.01)	0.16*** (0.01)	0.20*** (0.02)	0.16*** (0.01)	0.15*** (0.02)
Unemployed in Previous Year		0.34*** (0.03)	0.33*** (0.02)	0.44*** (0.07)	0.34*** (0.03)	0.57*** (0.06)
Voluntary Part-time Work (ref: Full-time)		0.62*** (0.04)	0.62*** (0.04)	0.54*** (0.08)	0.62*** (0.03)	0.67*** (0.05)
Involuntary Part-time Work (ref: Full-time)		0.35*** (0.04)	0.35*** (0.04)	0.44*** (0.05)	0.35*** (0.02)	0.42*** (0.06)
Occupation Unemployment Rate			0.01 (0.01)	0.02 (0.01)		
Job Index*Occupation Unemployment				-0.01*** (0.00)		
Unemployed in Previous Year*Occupation Unemployment				-0.01 (0.01)		
Voluntary Part-time Work*Occupation Unemployment				0.01 (0.01)		
Involuntary Part-time Work*Occupation Unemployment				-0.01* (0.00)		
State Unemployment Rate					-0.00 (0.01)	0.00 (0.01)
Job Index*State Unemployment						0.00 (0.00)
Unemployed in Previous Year*State Unemployment						-0.04*** (0.01)
Voluntary Part-time Work*State Unemployment						-0.01 (0.01)
Involuntary Part-time Work*State Unemployment						-0.01 (0.01)
Constant	-3.52*** (0.05)	-3.51*** (0.05)	-3.54*** (0.09)	-3.60*** (0.08)	-3.51*** (0.07)	-3.53*** (0.08)

Note. Coefficients presented. Robust standard errors in parentheses. Standard errors clustered at occupation (Models 1–4) and state (Models 5–6). Models control for sociodemographic covariates. *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

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